

What is the purpose of this testimony?

This testimony provides an explanation for each schedule that appears in the Raftelis Financial Consulting (“RFC”) model that has been developed to calculate flat retail commodity rates for residential, commercial and governmental classes of the City of Newport Water Division (“Newport”). It will also serve as a guide to other sources where assumptions are used, the logic that was used in the development of the model, and the flow of empirical and calculated information.

How did RFC develop the revenue requirements for Newport?

The revenue requirements are shown in Schedule 1 of the RFC model. It serves as a summary of the revenue requirements for operation and maintenance costs and capital expenses for the entire Newport water system. The NWD Rate Year column in Schedule 1 represents revenue requirements submitted by Exeter and Associates (“Exeter”) on behalf of the Division of Public Utilities and Carriers (“Division”) in its Newport cost of service study filed with the Rhode Island Public Utilities Commission (“RIPUC”) per Docket No. 2985. The RIPUC has adjusted these revenue requirements further in determining the appropriate costs to recover through flat retail commodity rates for Retail customers. The revenue requirements shown include the costs associated with serving Portsmouth and the Navy as well as Newport Retail customers.

The revenue requirements as shown in the NWD Rate Year column are taken directly from Schedule JDM-1, page 1 of the model developed by Exeter. Further adjustments by the RIPUC are as shown in Schedule 1. All revenue requirements are further allocated among three functional activities: supply and treatment, transmission, and distribution, as well as meters and

services, customer costs, and fire protection. Meters and services, customer costs, and fire protection are not included in determining the flat retail commodity rates.

Were specific line items from the budget for Newport used to develop the revenue requirements shown in Schedule 1?

Yes. Line items for each account in Schedule 1 are shown in Support Schedule A which show in detail the revenue requirements of the RFC model. These line items were taken directly from Schedule JDM-1, pages two through seven of the Exeter model. Adjustments made by the RIPUC are shown in a separate column for each individual line item and summarized for each account in Schedule 1. The cost for each line item is allocated among the three functional activities, meters and services, customer costs, and fire protection and summarized in Schedule 1. The allocation of each line item to the different cost categories is based on the allocation matrix found in Table 3a in Schedule 3 which was taken from Schedule JDM-1, page 8 of the Exeter model.

How were revenue offsets developed and integrated into the RFC model?

Revenue offsets are included to show the net revenue requirements that will be recovered through rates for all users of the system including Navy, Portsmouth, and Retail customers. As previously mentioned there is a line item in Schedule 1 that shows the total revenue offsets and how they are allocated among the different functional categories. The line items that comprise revenue offsets are allocated among the functional costs in Table 2a of Schedule 2 similar to the allocation in Support Schedule A.

How were revenue requirements and offsets allocated to the functional categories?

An allocation matrix was used as shown to allocate revenues and expenses in Table 3a of Schedule 3 of the RFC model. Its purpose is to allocate each budget line item to the three functional categories as well as to meters and services, customer charges, and fire protection for total costs associated with the Newport Water Division. The allocation matrix, mentioned previously in explanations of Support Schedule A, was taken directly from Schedule JDM-1, page 8 of the Exeter model. The cost function and its corresponding allocation symbol are assigned set allocation percentages for supply and treatment, transmission, distribution, meters and services, customer charge, and fire protection. The allocations are applied to the specific budget line items in Support Schedule A in order to allocate expenses among the functional categories.

Since there is not a specific allocation symbol shown in the Exeter model allocation matrix for revenue offsets, the overall allocation for Other Income, found in the Exeter model in Schedule JDM-1, page 1 is used. A cost of service amount was developed under each functional activity for Retail customers. Total revenue offsets for each cost category are then carried forward to Schedule 1 and Support Schedule A to determine net revenue requirements. Table 2b in Schedule 2 shows the revenue offsets for Retail customers allocated to the functional categories.

How were total costs allocated among Portsmouth, Navy and Retail?

Table 3b in Schedule 3 was used to calculate an allocation percentage of functional costs according to customer class to separate the total costs to functional categories for Portsmouth, Navy, and Retail. The allocation percentages found in Schedule JDM-2, page 1 of the Exeter

Model were used for this purpose. These percentages are then used to calculate functional costs for Portsmouth, the Navy and Retail customers in Table 3c.

How was the base/extra capacity demand incorporated into the analysis?

In Support Schedule B, average and peak data were obtained from the Newport and Lawton Valley treatment plants. This data was then used to allocate functional costs associated with average, max day and max hour demands among functions in Table 3d of Schedule 3. Table 3d displays the percentages to allocate the base (average demand) and extra capacity (max day and max hour demands) costs.

Was it possible to separate the demand between Navy, Portsmouth, and Retail customers?

No, therefore it was assumed that the peak flow data for the entire Newport water system applied to Retail customers in order to estimate an allocation percentage among functional activities. The percentages calculated for the Supply and Treatment functional activity is allocated only to average and max day demand as prescribed in the AWWA M-1 manual. The Transmission and Distribution allocation percentages are equal for average, max day, and max hour demands.

How were these allocation percentages used?

In Table 3e, the base/extra capacity allocations calculated in Table 3d are used to estimate the functional costs related to average, max day, and max hour demands for Retail customers.

How were costs associated with base demand for each customer class calculated?

In Table 3f, allocation percentages for base demand for residential, commercial, and governmental classes are calculated based on actual metered flow data provided by the City of

Newport as shown in Support Schedule C. An annual flow for each class was determined by the average monthly demand calculated for each class.

Was any consideration given to coincident vs. non-coincident peaking demand?

Yes, non-coincident extra capacity demand was calculated for all customer classes in accordance with the procedure outlined in Appendix A of the AWWA M-1 Manual. This procedure is used in Support Schedule D to derive the capacity factors for max day and max hour demand. The procedure begins where a max month daily flow is estimated from actual customer flow data for each customer class. A max month ratio was then calculated for each class by dividing the max month daily flow by the max month average daily rate for each class. The non-coincidental max day capacity factor is then estimated by multiplying the max month ratio by an overall system coincident max day to overall system max month ratio. A weekly usage adjustment is then applied to account for daily variation in usage for retail classes. A similar process is used to determine the max hour capacity factors.

Was a check done to ensure the capacity factors were consistent with AWWA guidelines?

The procedure in the AWWA M-1 Manual prescribes a test of system diversity, which serves as a reasonableness test for the coincident max day and max hour capacity factors. This procedure is used in Support Schedule D. Although, the diversity factors calculated for both max day and max hour capacity factors fall outside the AWWA prescribed range, the unique nature of Newport's usage patterns given its thriving tourism industry may explain the difference between it and the average usage pattern for a water system similar in size.

How is the base/extra capacity demand calculated in the RFC model?

The consumption data for the rate year for each customer class and for Portsmouth and the Navy are estimated from metered data to determine the base (average) demand. Total capacity flows for max hour and max day demand are calculated by multiplying the base demand by the non-coincident extra capacity factors. The extra capacity for max day demand is the difference between the total capacity flow for max day demand and the base flow. The extra capacity for max hour demand is the difference between the total capacity for max hour demand and the total capacity for max day demand.

How are the resulting base/extra capacity flows used?

The average, max hour, and max day flows calculated in Schedule 4 are used to determine the percentages to allocate costs associated with average, max day, and max hour demand in Table 3f in Schedule 3. These percentages are then used to determine the base/extra capacity costs per customer class in Table 3g.

How are flat retail commodity rates for each customer class calculated?

The costs associated with base/extra capacity demand are totaled for each customer class and divided by the respective customer class's actual metered annual flow for the rate year to determine the flat retail commodity for each customer class.

Have you provided information on what the customer impacts are projected to be?

Yes, Schedule 6 shows existing and proposed rates and the percentage impacts that are likely to occur for various volumes. The billing rate remains at \$11 per account while the volume rate has changed from a two block rate structure for all customers to a flat retail commodity rate for residential, commercial, and governmental customers. The impacts show how much each

125 customer class was paying for certain volumes under the existing rate structure and what the total
126 bill will be under the proposed rates for the same volumes.

127 **What consideration has been given as to whether the revenues from the flat retail**
128 **commodity rates are sufficient to cover revenue requirements for the City of Newport –**
129 **Water Division?**

130 Schedule 5 serves as a revenue proof to determine revenue sufficiency of the proposed flat retail
131 commodity rates for Retail customers. The income available for debt service is shown as well
132 and is calculated by showing total revenues (user revenues and specific service revenues) less
133 billing costs and O&M Expense.

134 **According to the RFC model, are the flat retail commodity rates calculated sufficient to**
135 **meet revenue requirements?**

136 Yes, as shown in Schedule 5, a surplus is generated.

137 **Does this conclude the RFC testimony?**

138 Yes.